

REMARKS

This application has been carefully reviewed in light of the Office Action dated November 7, 2005. Claims 1, 3 to 9, 11 to 15, 17 to 23, 25 to 36 and 38 to 42 are in the application, with Claims 2, 10, 16, 24 and 37 having been cancelled herein. Claims 1, 15 and 38 are independent. Reconsideration and further examination are respectfully requested.

Claims 4 to 8, 10, 11, 13, 14, 18 to 22, 24, 25, 28 to 31, 33, 36 and 37 were objected to as allegedly being in improper multiple dependent form, and Claims 1 and 15 were objected to for an informality. These objections are respectfully traversed. Specifically, the parts which form the basis for the objections were addressed by a Preliminary Amendment filed concurrently with the original application on January 28, 2002 and a Supplementary Preliminary Amendment filed April 2, 2002. Both amendments appear in the Patent Office's Image File Wrapper for this application. Accordingly, Applicants request that the Examiner confirm that these amendments have been entered. Withdrawal of the objections is therefore respectfully requested.

Claims 1 to 13, 15 to 28, and 30 to 38 were rejected under 35 U.S.C. §103(a) over U.S. Patent No. 6,141,346 (Caldara) in view of U.S. Patent No. 4,542,507 (Read), and Claims 14 and 29 were rejected under §103(a) over Caldara in view of Read and U.S. Patent No. 6,683,872 (Saito). Reconsideration and withdrawal of the rejections are respectfully requested.

The present invention generally concerns protocol data unit switching for selective interconnection of a transmitter port and a plurality of receiver ports selected from among at least two receiver ports by means of at least one internal bus. Each of the protocol data units is constituted of at least one piece of elementary data. Among its many

features, the present invention includes (i) determining whether all the elementary pieces of data constituting the protocol data unit have been received by each of the selected receiver ports, and (ii) blocking the selected receiver ports until all of them have received all the elementary pieces of data constituting the protocol data unit.

Referring specifically to claim language, independent Claim 1 as amended is directed to a protocol data unit switching method used for the selective interconnection of a transmitter port and a plurality of receiver ports selected from among at least two receiver ports by means of at least one internal bus, the protocol data units being constituted by at least one elementary piece of data. The method includes a synchronization mechanism defining time slots, called connection cycles, on at least one of the internal buses, a mechanism for the allocation of at least one of the connection cycles to each of the selected receiver ports, and a mechanism for the writing of at least one piece of elementary data in the allocated connection cycle or cycles so as to enable the broadcasting of the protocol data unit to the selected receiver ports. The writing mechanism includes a verification step determining whether all the elementary pieces of data constituting the protocol data unit have been received by each of the selected receiver ports, and the selected receiver ports are blocked until all of them have received all the elementary pieces of data constituting the protocol data unit.

Independent Claims 15 and 38 are directed to a device and a computer program product, respectively, substantially in accordance with the method of Claim 1.

The applied art is not seen to disclose or to suggest at least the features of (i) determining whether all the elementary pieces of data constituting the protocol data unit have been received by each of the selected receiver ports, and (ii) blocking the selected

receiver ports until all of them have received all the elementary pieces of data constituting the protocol data unit.

As understood by Applicants, Caldara discloses an Asynchronous Transfer Mode (ATM) switch that facilitates point-to-multipoint data transmissions using a crossbar structure. To execute point-to-multipoint operation where output port conflicts are present, the switch transmits copies of the cell to the output ports at different points in time. More particularly, the switch transmits copies of the cell to the available output ports, and tracks such transmission for managing future transmission to unserved output ports. (See Caldara, Abstract).

Page 4 of the Office Action concedes that Caldara “only vaguely discloses a mechanism comprising a verification step determining whether each of said pieces of elementary data has been received by each of the selected receiver ports.”

Applicants submit that Caldara additionally is not seen to disclose or to suggest the feature of determining whether all of the elementary pieces of data constituting a protocol data unit have been received by each of the selected receiver ports.

Furthermore, Caldara is not seen to disclose or suggest blocking the selected receiver ports until all of them have received at least the at least one piece of elementary data. In particular, in the system of Caldara, once a cell has been transmitted to a serviced output port, the output port that has received the data is released and made available for another connection. (See Caldara, Column 4, lines 55 to 66).

For example, Figure 3A of Caldara clearly depicts that during the third time slot, the cell for connection “a” has been transmitted to port 4, but not ports 2 and 3, as those ports are busy by connections b and c, respectively. However, once the SAT pointers reach the sixth time slot, connection “a” is transmitted to now-available ports 2 and 3, and

the cell for connection “d” is transmitted to port 4. Thus, the already serviced output port 4 is released after receiving the cell for connection “a”, and is then available to receive the cell for connection “d”. Therefore, in Caldara, output ports are available for new connections once they have received a cell. In contrast, the present invention features the blocking of the selected receiver ports until all of them have received all the elementary pieces of data constituting the protocol data unit.

Accordingly, Caldara is not seen to disclose or to suggest at least the features of (i) determining whether all the elementary pieces of data constituting the protocol data unit have been received by each of the selected receiver ports, and (ii) blocking the selected receiver ports until all of them have received all the elementary pieces of data constituting the protocol data unit.

Read is not seen to remedy the shortcomings of Caldara. As understood by Applicants, Read discloses an apparatus for verifying a data path through a digital switch between a transmitting port and a receiving port. A transmitter transmits a test data block in a first predetermined time slot, and a receiver receives the test data block in a second predetermined time slot. Test logic examines the received data block to determine that the test data block has been transmitted error-free. (See Read, Abstract).

The Office Action asserts on page 4 that Read (Column 12, line 54 to Column 13, line 14) discloses a mechanism comprising a verification step determining whether each of the pieces of elementary data has been received by each of the selected receiver ports. However, the cited portions of Read are simply seen to disclose verification of whether a single piece of data, the test data block, has been received error-free from a single inbound port (port A) to a single outbound port (port B) during a single test transmission, and are not seen to have anything to do with determining whether each of

pieces of elementary data have been received by each of selected receiver ports, much less determining whether all the elementary pieces of data constituting a protocol data unit have been received by each of selected receiver ports. (See Read, Column 12, line 54 to Column 13, line 14).

Moreover, Read is not seen to disclose or suggest blocking receiver ports at all, much less blocking selected receiver ports until all of them have received all the elementary pieces of data constituting a protocol data unit.

Saito has been reviewed and is not seen to remedy the above-noted deficiencies of Caldara and Read.

Accordingly, Applicants submit that the applied art does not suggest or disclose at least the features of (i) determining whether all the elementary pieces of data constituting the protocol data unit have been received by each of the selected receiver ports, and (ii) blocking the selected receiver ports until all of them have received all the elementary pieces of data constituting the protocol data unit.

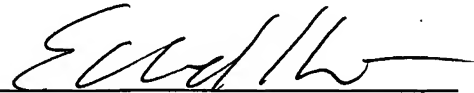
In view of the foregoing deficiencies of the applied art, Claims 1, 15 and 38 are believed to be allowable.

The other claims in the application are each dependent from the independent claims and are believed to be allowable over the applied references for at least the same reasons. Because each dependent claim is deemed to define an additional aspect of the invention, however, the individual consideration of each on its own merits is respectfully requested.

No other matters being raised, it is believed that the entire application is fully in condition for allowance, and such action is courteously solicited.

Applicants' undersigned attorney may be reached in our Costa Mesa,
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our below-listed address.

Respectfully submitted,



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